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22850 7590 12/13/2007 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER METZMAIER, DANIEL S	
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/831,915  
Filing Date: May 25, 2001  
Appellant(s): DANIEL ET AL.

**MAILED**  
**DEC 13 2007**  
**GROUP 1700**

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For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 28 September 2007 appealing from the Office action mailed 16 July 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct. It is noted that the inventive examples are found at page 7, line 16 et seq. (ex. 1); page 8, line 27 et seq. (ex. 2); page 9, line 24 et seq. (ex. 3); and page 14, line 43 et seq.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon<sup>1</sup>**

WO 97/46195      The Procter & Gamble Company      11 December 1997

US 5,429,628      Trinh et al.      04 July 1995

**Modern Superabsorbent Polymer Technology**, edited by Fredric L. Buchholz and Andrew T. Graham, Wiley-VCH, pp. 97-101 (November 1997).

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-7, 10-14, 16, 18, 20-21 and 23-24 are rejected under 35 U.S.C. 103(a) as obvious over The Procter & Gamble Company, WO 97/46195, (hereafter Procter & Gamble), in view of Trinh et al, US 5,429,628 (example 9, column 25, lines 35-40) and **Modern Superabsorbent Polymer Technology**, edited by Fredric

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<sup>1</sup> Please noted section (12) of this Examiner's Answer that corrects and provides (attached hereto) Appellants' Evidence Appendix for evidence referred to in Appellants' Brief.

L. Buchholz and Andrew T. Graham, Wiley-VCH, pp. 97-101 (November 1997). Procter & Gamble (page 6, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs; examples and claims) discloses the combination of silica, AGM (polyacrylate), and zeolite as an odour control system in an absorbent article.

Procter & Gamble differs from the claims in the sufficiency of the disclosure in Procter & Gamble in the exemplified formation of the materials employed in making the dried hydrogels or the order of the process steps.

Trinh et al (example 9, column 25, lines 35-40) discloses AGM is commercial polyacrylate particles (Drytech 512 from Dow Chemical). AGM reads on said dried hydrogel.

Procter & Gamble (page 5, 2<sup>nd</sup> paragraph) discloses the odour control system may comprise sodium silicate as an essential component alternative to silica. Procter & Gamble (page 6, 4<sup>th</sup> paragraph) discloses the odour control system may be made employing spray drying, spray mixing, or agglomeration processes. Procter & Gamble further discloses the silicate itself may act as a binder for the odour control system. Procter & Gamble (page 6, 3<sup>rd</sup> paragraph) discloses the odour control system may be in the form of particulates, granulates, flakes, noodles, and exudates.

Modern Superabsorbent Polymer Technology (pp. 97 et seq) discloses the advantageous step of surface cross-linking to avoid gel blocking of soluble polyacrylic acids.

These references are combinable since they teach polyacrylate polymers for absorbent articles and odour control systems therefore useful for personal use articles,

e.g., sanitary napkins and diapers. It would have been obvious to one of ordinary skilled in the art at the time of appellants' invention to post cross-link the odour control systems taught in the Procter & Gamble reference, which employ polyacrylates for the advantage of avoiding gel blocking.

Trinh et al further (column 16, lines 47 et seq; and example 9) discloses forming odour control granules for absorbent articles comprising AGM and zeolite in particulate form by adding water, blending and drying. Trinh et al (column 16, lines 47 et seq) teaches gel formation and further teach silica materials.

It would have been obvious to one of ordinary skilled in the art at the time of appellants' invention to employ the methods of intimately mixing the alkali silicate and polyacrylates as conventional in the art as shown by the Trinh et al reference.

To the extent Procter & Gamble differs from the claims in the value of n is not disclosed in the reference, appellants acknowledge the alkali silicates are commercially available. Appellants have not shown any criticality for the claimed ratio of alkali metal oxides to silica, which are commonly available sodium silicate.

Claims 4-5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over The Procter & Gamble Company, WO 97/46195, (hereafter Procter & Gamble), as evidenced by or in view of Trinh et al, US 5,429,628 (example 9, column 25, lines 35-40). Procter & Gamble (page 6, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs; examples and claims) discloses the combination of silica, AGM, and zeolite as an odour control system in an absorbent article.

Trinh et al (example 9, column 25, lines 35-40) discloses AGM is commercial polyacrylate particles (Drytech 512 from Dow Chemical). AGM reads on said dried hydrogel.

Procter & Gamble differs from claims 4 and 5 in the point of addition of the sodium silicate and the further combination of a neutralizing agent, i.e., alkali metal hydroxide or alkali metal carbonate.

Procter & Gamble (examples) discloses the use of neutralized polyacrylates. Changes in the order of process steps has been held to be *prima facie* obvious. See MPEP 2144.04(C). Furthermore, the use of conventional neutralizing agents, i.e., sodium carbonate, is within the level of one having ordinary skill in the art at the time of appellants' invention for the advantage of adjusting the pH of the system for the advantage of making it hypoallergenic as would be required in The Procter & Gamble reference.

Procter & Gamble differs from claim 17 in the use of sodium silicate rather than potassium silicate claimed but discloses metal silicates and specifically mentions sodium silicate.

These references are combinable since they teach absorbent materials for personal use articles, e.g., sanitary napkins and diapers. It would have been obvious to one of ordinary skilled in the art at the time of appellants' invention to employ potassium silicate as an obvious functional equivalent to the sodium silicate and their structural similarity.

### **(10) Response to Argument**

For the purpose of this Answer, the following is a brief interpretation of certain aspects of the instant claims. Claims 1, 10 and 18 are independent. Claims 1 and 18 are drafted in product by process format. Thus, the claims have been analyzed in accordance with MPEP § 2113.

Claim 10 is directed to a process of preparing a dried hydrogel.

All the independent claims employ open transitional language, i.e., "comprising". Therefore, the claims do not exclude further components and/or process step that are not specifically recited. See MPEP § 2111.03.

Claims 1, 10, 18 and 23 are argued separately. Dependent claims 2, 3, 6, 7, 11, 12, 13, 14, 16, 20, 21, and 24 merely recite the claim limitations. Claims 4, 5 and 17 are asserted for the reasons discussed in ground (A). Ground (B) arguments also merely recites the claim limitations. Claims 4, 5, and 17 should stand or fall with claim 1.

#### **Ground (A)**

(I) Appellants (page 6, 1st full ¶) assert the mixing the polymerization mixture with the alkali metal silicate before drying requires the silicate to be distributed inside of the particles of the gel that are obtained. This has not been deemed persuasive for the following reasons:

(a) Appellants arguments appears to be inconsistent with the process claim 10 and claim 18 limitations; " admixing said solid gel with an alkali metal silicate".



Depending on the mixing step, the claims do not require the alkali metal silicate to be distributed throughout the dried hydrogel.

(b) The prior art provides the following facts:

The P & G reference (page 6, 2<sup>nd</sup> full ¶) teaches the combination of silica, AGM and Zeolite as odor control systems.

Trinh et al (example 9, column 25, lines 35-40) discloses AGM is commercial polyacrylate particles (Drytech 512 from Dow Chemical).

The P & G reference (page 5, 2<sup>nd</sup> paragraph) discloses the odour control system may comprise sodium silicate as an essential component alternative to silica.

The P & G reference (¶ bridging pages 6 and 7) discloses silicate, i.e., sodium silicate, may be employed as a **binder** in processes of conventional methods, utilizing spray drying, spray mixing or agglomeration processes. Accordingly, the sodium silicate itself may acts as a binder.

Procter & Gamble (page 6, 3<sup>rd</sup> ¶) discloses the odour control system may be in the form of particulates, granulates, flakes, noodles, and exudates.

Furthermore, Trinh et al (column 16, lines 47 et seq; and example 9) discloses forming odour control granules for absorbent articles comprising AGM and zeolite in particulate form by adding water, blending and drying. Trinh et al (column 16, lines 47 et seq) teaches gel formation and further teach silica materials.

It is reasonable to conclude from these facts that said admixing processes steps disclosed in the P & G reference and further in view of Trinh et al, which shows the state of the art wet processes, are prior to drying and the odor control systems are

themselves absorbent materials. Appellants have not shown the compositions to be different than the prior art compositions and /or processes for the breadth of the claims.

(c) Furthermore, appellants' claims do not exclude an intermediate drying step and to the extent said intermediate drying exist, appellants have not shown the products to be patentably distinct.

(II) Appellants (page 6, 2<sup>nd</sup> full paragraph) assert the structure of silicate distributed throughout the polymer particles is shown in the Declaration of Dr. Manfred Essig dated 06 May 2005. Appellants' declaration evidence (Dr. Manfred Essig, May 6, 2005) has not been deemed probative since: (1) it is not commensurate in scope with the claims, (2) it has not been shown to be an unobvious result in view of the prior art teachings to the use of sodium silicate as a binder in conventional methods utilizing spray drying, spray mixing or agglomeration processes taught in The P & G reference, and (3) it does not compare the closest prior art, i.e., the teachings of The P & G reference. The declaration characterizes an embodiment of the instant disclosure and **does not present comparative data.**

Assuming *arguendo* appellants' declaration evidence were to show distribution of silicate throughout the polymer material, said evidence does not show The P & G and Trinh et al reference teachings of sodium silicate in wet processes (i.e., the same or similar products) are patentably distinct from the instant claims.

(III) Appellants (¶¶ bridging pages 6 and 7) assert The P & G and Trinh et al references do not disclose post-cross linking. This has not been deemed persuasive since the step of **post**-cross linking as denoted by the term is an after treatment of the particulate materials for the advantage of mitigating gel-blocking. See **Modern Superabsorbent Polymer Technology**, edited by Fredric L. Buchholz and Andrew T. Graham, Wiley-VCH, pp. 97 (November 1997).

Furthermore, all the references are applicable to the same field of endeavor, absorbent materials employing at least polyacrylates. Appellant's arguments against the references individually cannot show nonobviousness. Attacking references individually where the rejections are based on combinations of references is improper. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(IV) Appellants (page 7, 1<sup>st</sup> ¶ to page 8, 2<sup>nd</sup> full ¶) assert the combined references fail to disclose preparing a dried hydrogel, wherein a polymerization mixture after polymerization and before drying is admixed with an alkali metal silicate. Appellants further assert the polyacrylate AGM is a dried absorbent gelling material rather than a polymerization mixture. This has not been deemed persuasive for the following reasons:

(a) The claims employ open transitional language and the prior art discloses wet mixing of the hydrogel and silicates (see Trinh et al at column 16, lines 47 et seq; and example 9).

(b) The instant comparative examples all employ a base without the use of silica or silicate at all. The P & G reference specifically disclose silicates and more specifically sodium silicates and state said silicates act as a binder.

(c) Appellants have proffered no evidence that the ADM material and the polymerization mixture as claimed impart an unobvious and patentable distinction for the compositions and process.

(d) Furthermore, "selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results". See MPEP § 2144.04(IV)(C).

(e) Appellants' arguments are inconsistent with the limitation of claims 10 and 18: "admixing said solid gel with an alkali metal silicate". Upon "admixing said solid gel with an alkali metal silicate, said silicate would have been expected to coat the solid rather than be homogeneously dispersed therein as argued.

Regarding the process, The P & G reference (§ bridging pages 6 and 7) discloses conventional manufacturing methods, which would include wet mixing (see Trinh et al at column 16, lines 47 et seq; and example 9).

Regarding the compositions, appellants have not shown any patentable difference between the materials. "Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to appellant to come forward

with evidence establishing an unobvious difference between the claimed product and the prior art product.” See MPEP § 2113.

Appellants (page 8, 2<sup>nd</sup> full ¶) assert absorbent articles are sanitary napkins and that are not superabsorbent particles themselves. If appellants intended sanitary napkins, the claims should have set forth sanitary napkins. See MPEP 2111: “During patent examination, the pending claims must be ‘given their broadest reasonable interpretation consistent with the specification.’ >The Federal Circuit’s en banc decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) . . .”. Appellants original specification (page 4, lines 37-42) disclose the use of hydrogels in hygiene articles, for example sanitary napkins among other but the claims do not set forth hygiene articles. Claim 12 sets forth a mere “article”, which reads on superabsorbent particles rather than the more narrow hygiene articles exemplified.

Appellants (page 8, 2<sup>nd</sup> full ¶) arguments regarding the microstructure of the claimed materials as homogeneously distributed throughout rather than coated particles has not been deemed persuasive. See above Item (II)(e) regarding solid gel and alkali metal silicate admixtures. Furthermore, appellants have not shown the prior art materials made by wet processes do not bind.

(V) Appellants (page 8, last ¶, to first two ¶) assert that in example 1 a solution of soluble sodium silicate and sodium hydroxide results in 74 % of the acid groups of the

hydrogel are neutralized in the polymer particles resulting in the silicate being distributed throughout the polymer particles. Attention is directed to above Item (II)(e) regarding solid gel and alkali metal silicate admixtures. The Procter & Gamble reference clearly contemplates the use of silicate binders and the use of sodium silicate as an alternative to silica and/or zeolite (page 5, 2<sup>nd</sup> ¶; and page 6, 3<sup>rd</sup> ¶).

Appellants' conclusions that The P & G Reference does not disclose or suggest the distribution of silicate throughout the polymer particles have not been supported in fact or by evidence.

(VI) Appellants (page 9, 3<sup>rd</sup> full ¶) assert Trinh et al discloses zeolite and optionally Kieselguhr, which is defined by Kirk-Othmer as particulate diatomite. Appellants further argue that wet mixing particulate solids will not result in one material distributed throughout the other. This has not been deemed persuasive since The Procter & Gamble reference discloses the use of sodium silicate as an alternative to silica and silicates as a binder. See also Item (II)(e) above regarding solid gel and alkali metal silicate admixtures.

(VII) Appellants (page 9, last ¶) assert there is no motivation to replace the porous silica or silicate having a high surface area with a silicate solution. This has not been deemed persuasive since The Procter & Gamble reference lacks a teaching of sodium silicate having a high surface area and explicitly teaches sodium silicate as an alternative to silica and the use of silicate as a binder.

(VIII) Appellants (page 10, 1<sup>st</sup> ¶) assert the Modern Superabsorbent Polymer Technology discloses post-crosslinking but does not cure The Procter & Gamble and Trinh et al references. This has been addressed above.

#### **CLAIM 10**

(I) Appellants (page 11, 1<sup>st</sup> and 2<sup>nd</sup> ¶) assert the arguments regarding admixing as asserted for claim 1. These have been addressed above.

(II) Appellants (page 10, 3<sup>rd</sup> ¶) assert The Procter & Gamble and Trinh et al references lack a teaching of post-cross-linking and although Modern Superabsorbent Polymer Technology discloses post-cross-linking (for the advantage of mitigating gel blocking<sup>2</sup>), the materials being post-crosslinked are different. This has not been deemed persuasive since it is based on appellants' arguments regarding the silicate distributed throughout the polymer material, which has been addressed above.

(III) Appellants (page 11, last partial ¶ to page 14, 1<sup>st</sup> ¶) assert the examples and comparative examples show superior absorbency. This has not been deemed persuasive since the comparative results do not compare the closest prior art. The comparative examples show no silicate as well as no silica. Since both art disclosed in

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<sup>2</sup> Appellants have not challenged the use of post-crosslinking for the advantage of mitigating gel-blocking.

The Procter & Gamble reference, the comparisons are not probative therefore.  
Furthermore, only example 25 discloses a post-crosslinked material as claimed.

#### **CLAIM 18**

It is noted claim 18 is drafted in product-by-process form.

(I) Appellants (pages 14-15, bridging ¶) assert The Procter & Gamble and Trinh et al references lack a teaching of post-cross-linking and although Modern Superabsorbent Polymer Technology discloses post-cross-linking (for the advantage of mitigating gel blocking), the materials being post-crosslinked are different. This has not been deemed persuasive since it is based on appellants' arguments regarding the silicate distributed throughout the polymer material, which has been addressed above.

#### **CLAIMS 1-3, 6-7, 11-16, 20-21 and 24**

(I) Appellants (pages 15-19) restate the claim limitations. This is not deemed persuasive for the reasons addressed above and in view of 37 CFR 41.37((c)(1)(vii), wherein "A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim."

#### **CLAIM 23**

(I) Appellants (page 18) assert The Procter & Gamble, Trinh et al and Modern Superabsorbent Polymer Technology references lack a disclosure that the sodium silicate is soluble in water. Appellants further refer to Ullman's Encyclopedia of



Industrial Chemistry, Vol. 32, page 412. This has not been deemed persuasive since Ullman's left column at page 412, disclose two alkali metal silicates used in industry including water-soluble silicates and solid crystalline sodium silicates. The Procter & Gamble Reference (page 5, 2<sup>nd</sup> full ¶) prefers non-crystalline amorphous materials. One skilled in the art reading The Procter & Gamble reference would have been lead to employ the water-soluble sodium silicate to result in amorphous silicates rather than the crystalline solid sodium silicates available.

#### **Ground (B)**

(I) Appellants (page 19) assert The Procter & Gamble and Trinh et al references do not make claims 4, 5 and 17 obvious for the reasons addressed above. This has not been deemed persuasive since it is based on appellants' arguments regarding the silicate distributed throughout the polymer material, which has been addressed above.

(II) Appellants (pages 19 and 20) restate the claim limitations for 4, 5 and 17. This is not deemed persuasive for the reasons addressed above and in view of 37 CFR 41.37((c)(1)(vii), wherein "A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim."

#### **Conclusion**

Appellants' arguments and evidence are not commensurate in scope with each other and said arguments and evidence are not commensurate in scope with the claims. The claimed admixing of solid gel with alkali metal silicate is inconsistent with the

asserted arguments that admixing a solid with the silicate will not produce the silicate distributed throughout the polymer. The evidence of record fails to support the arguments since no silica or silicate are added in the comparative examples and the declaration evidence is merely exemplary of an embodiment of the instant case and not comparative of The Procter & Gamble reference materials disclosed.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

**(12) Appellants' Evidence Appendix**

Appellants' Evidence Appendix indication of "none" is incorrect.

(I) Appellants' Arguments (page 6, last full ¶; and page 9 1<sup>st</sup> ¶) reference a Declaration of Dr. Manfred Essig dated 06 May 2005 and filed at the USPTO 09 May 2005.

(II) Appellants' Arguments (page 9, 3<sup>rd</sup> ¶) reference Kirk-Othmer, Encyclopedia of Chemical Technology, 4<sup>th</sup> Edition, Volume 8, pages 108-109.

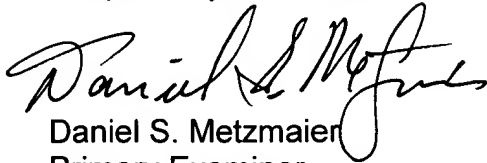
(III) Appellants' Arguments (page 18, 2<sup>nd</sup> ¶) reference Ullman's Encyclopedia of Industrial Chemistry, Vol. 32, page 412.

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For the above reasons, it is believed that the rejections should be sustained.


Respectfully submitted,



Daniel S. Metzmaier  
Primary Examiner  
Art Unit 1796

Conferees:

APPEAL CONFERENCE: 

  
Romulo Delmondo  
Appeal Conference

*Appellants' Evidence Appendix*

(I) Appellants' Arguments (page 6, last full ¶; and page 9 1<sup>st</sup> ¶) reference a Declaration of Dr. Manfred Essig dated 06 May 2005 and filed at the USPTO 09 May 2005. Pages 2 of 2 plus 3 of 3 from artifact folder.

(II) Appellants' Arguments (page 9, 3<sup>rd</sup> ¶) reference Kirk-Othmer, Encyclopedia of Chemical Technology, 4<sup>th</sup> Edition, Volume 8, pages 108-109.

(III) Appellants' Arguments (page 18, 2<sup>nd</sup> ¶) reference Ullman's Encyclopedia of Industrial Chemistry, Vol. 32, page 411-413.